

Listing of Claims:

1. (Currently Amended) A system for authenticating a signature, [[including]] comprising:

- (a) a digitizer having a digitizer surface and an associated pen having a pen tip;
- (b) a dynamic identification unit for receiving data from said digitizer produced during signature by said pen on said digitizer, calculating signature parameters and permitted variations from said data, and generating a reference signature record therefrom;
- (c) a comparator for comparing said received parameters produced during signature with said reference signature record; [[and]]
- (d) an apparatus for providing an accept or reject response in accordance with the output of said comparator;

[[characterized in that:]]

69 said reference signature record [[is]] being a dynamic personal signature profile that which is updated in accordance with received parameters produced during each accepted signature[[.]]; and

said signature parameters being received as a function of time, being dimensionally independent, and including (i) a parameter based on a pen position expressed in x and y coordinates, (ii) a parameter based on a pressure applied to the pen tip, (iii) a pen tilt parameter measuring a pen angle with the digitizer surface, and (iv) a change of relative angle parameter measuring an orientation of the pen on the digitizer surface.

2. (Original) The system according to claim 1, further comprising:

a transmitter for transmitting said calculated signature parameters for authentication;

and

a receiver for receiving said transmitted signature parameters, said receiver being coupled to said comparator.

3. (Original) The system according to claim 2, wherein:

- (a) said system further includes an encryptor for encrypting said measured parameters to provide an encrypted signature record; and
- (b) said dynamic identification unit further includes a decoder for decoding said encrypted signature record.

4. (Original) The system according to claim 1, wherein said reference signature record is stored on an IC (integrated chip) card.

5. (Previously presented) The system according to claim 1 for authenticating a signature transmitted over a transmission line, comprising:

(a) a vendor unit including:

(1) a digitizer and an associated pen; and

(b) a signature authorization unit coupled to said vendor unit by the transmission line and including:

(1) a dynamic identification unit for receiving data from said digitizer produced during signature by said pen on said digitizer, calculating signature parameters therefrom, and generating a reference signature record corresponding thereto;

(2) a comparator for comparing said parameters produced during signature with said reference signature record; and

(3) apparatus for providing an accept or reject response to said vendor unit in accordance with the output of said comparator.

6. (Previously presented) The system according to claim 2 for authenticating a signature transmitted over communication transmission lines, comprising:

(a) a cardholder unit including:

(1) a digitizer and an associated pen;

(2) apparatus for transmitting the output of said digitizer over the communication transmission lines;

(b) a signature authorization unit including:

(1) a dynamic identification unit for receiving data from said digitizer produced during signature by said pen on said digitizer, calculating signature parameters therefrom, and generating a reference signature record corresponding thereto;

(2) a comparator for comparing said parameters produced during signature with said reference signature record; and

(3) apparatus for providing an accept or reject response in accordance with the output of said comparator; and

(c) a vendor unit coupled to said cardholder unit and to said signature authorization unit by the communication transmission lines and including a transceiver for receiving said output of said digitizer from said cardholder unit and transmitting it to said signature authorization unit; and for receiving said accept or reject response from said signature authorization unit.

7. (Previously presented) The system according to claim 1, wherein said reference signature record includes an array of signature parameters and permitted variations.

8. (Canceled)

9. (Currently amended) A method of authenticating a signature, including the steps of:

- 62
- (a) providing a reference signature record;
 - (b) signing with a pen on a digitizer tablet;
 - (c) calculating signature parameters from data received from said digitizer produced during signature by said pen on said digitizer;
 - (d) comparing said signature parameters produced during signature with said reference signature record; and
 - (e) providing an accept or reject response in accordance with results of the comparison;

[[characterized in that:]]

wherein said step of providing a reference signature record includes dynamically updating a personal signature profile, in accordance with [[received]] the signature parameters produced during each accepted signature[.];

said signature parameters being dimensionally independent parameters including (i) a parameter based on a pen position expressed in x and y coordinates, (ii) a parameter based on a pressure applied to the pen tip, (iii) a pen tilt parameter measuring a pen angle with the digitizer surface, and (iv) a change of relative angle parameter measuring an orientation of the pen on the digitizer surface.

10. (Currently amended) The method according to claim 9, [[and]] further including the steps of:

- (a) encrypting said calculated parameters with [[a]] an encryption key after said step of calculating; and
- (b) decrypting said encrypted parameters before comparing said parameters.

11. (Original) The method according to claim 9, wherein said step of providing a reference signature record includes:

- (a) writing the signature on said digitizer several times;
- (b) calculating signature parameters for each signature;
- (c) calculating permitted variations of said signature parameters; and
- (d) storing said signature parameters and said permitted variations as a reference signature record.

12. (Canceled)

13. (Previously presented) The system according to claim 1, wherein said personal signature profile includes an array of parameters and personal tolerances based on received parameters produced during a plurality of accepted signatures.

14. (Previously presented) The system according to claim 13, wherein said personal tolerances are determined individually for each person in accordance with variations in received parameters produced during each accepted signature of that person.

15. (Canceled.)

16. (Previously presented) The system according to claim 1, wherein said comparator is arranged to provide a reject response when a signature is identical to an immediately previous signature.

17. (Previously presented) The system according to claim 1, wherein said apparatus for providing an accept or reject response includes apparatus granting or denying access to network resources.

18. (Canceled).

19. (Previously presented) The method according to claim 9, further including the step of providing a reject response from said comparator when a signature is identical to an immediately previous signature.

69 20. (Previously presented) The method according to claim 9, wherein said step of comparing signature parameters can be performed on parameters received from the digitizer tablet at any orientation and size of signature relative to said tablet.

21. (Previously presented) The method according to claim 9, wherein said step of calculating signature parameters can be performed on parameters received from the digitizer tablet at any orientation and size of signature relative to said tablet.

22. (Previously presented) The method according to claim 9, wherein said step of providing an accept or reject response includes granting or denying access to network resources.
